

Date: Sat, 6 Nov 93 16:33:10 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #1315
To: Info-Hams

Info-Hams Digest Sat, 6 Nov 93 Volume 93 : Issue 1315

Today's Topics:

 Fun with Radio Shack
 How to calibrate a DVM
 SAREX Keps & Update 10/28 (4 msgs)

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 4 Nov 1993 16:17:02 GMT
From: pacbell.com!amdahl!netcomsv!netcom.com!greg@decwrl.dec.com
Subject: Fun with Radio Shack
To: info-hams@ucsd.edu

Went into Radio Shack the other day, to see if their discone antenna looked
like a worth-while investment as a broadband TX/RX antenna. They didn't
have one in stock.

In any case, I saw the '94 catalog and asked for one. "That'll be three
dollars" says the sales droid. "What?" says I, "you're charging for them?"
"We are this year," he replies. Seeing coupons for about eight bucks in
the front, I fork over the cash.

"Last four digits of your phone number?" he says.

"That'll be three dollars," I reply.

"Pardon?" he says, confused.

"I'm charging for mailing-list information --- this year," I reply.

He didn't pay.

Greg

Date: Thu, 4 Nov 1993 16:21:14 GMT
From: fluke!rem@beaver.cs.washington.edu
Subject: How to calibrate a DVM
To: info-hams@ucsd.edu

In article <2b3ol3\$np@gdls.gdls.com> turini@gdls.com (Bill Turini) writes:

>I have three digital voltmeters in my shack, none of which agree with the
>others.

>

>The problem I have is how to calibrate the voltage. I have heard that
>mercury cells like those used in cameras are quite stable and consistent
>in voltage and that they can be used to calibrate a meter. Has anyone had
>experience with this? Will it work? Is there a better way?

Some questions first. How far apart are the readings and what are the specifications on the individual meters. If you assume there is a large difference then something else may be wrong. If the difference is small it could still be within the spec of the meter.

One thing you can do is find a meter that has been calibrated recently say from a friend or at work and check the meters against it. Using mercury cells can be tricky and not all meters are alike.

Randy
AJ7B

Date: 6 Nov 93 22:51:46 GMT
From: news-mail-gateway@ucsd.edu
Subject: SAREX Keps & Update 10/28
To: info-hams@ucsd.edu

R:931103/1226Z @:WA7BHH.WA.USA.NA [Tacoma] #:13577 Z:98465 FBB5.15
R:931103/1143 6217@WB7QEU.WA.USA.NA
R:931103/1022 7985@WA7SJJN.WA.USA.NA
R:931103/1012 1124@W0RLI.OR.USA.NOAM
R:931103/0555 37552@N7DXT.#EUGEN.OR.USA.NA
R:931103/0515 49937@WB7VMS.#MURPH.OR.USA.NOAM

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28985 ; Tue, 02 Nov 93 20:47:06 GMT
Date: Tue, 02 Nov 93 20:47:48 UTC
Message-Id: <28973_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28973 ; Tue, 02 Nov 93 19:58:01 GMT
Date: Tue, 02 Nov 93 19:58:49 UTC
Message-Id: <28968_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
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id 28968 ; Tue, 02 Nov 93 18:43:20 GMT
Date: Tue, 02 Nov 93 18:44:09 UTC
Message-Id: <28942_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

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id 28942 ; Tue, 02 Nov 93 17:43:53 GMT
Date: Tue, 02 Nov 93 17:44:47 UTC
Message-Id: <28937_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
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Subject: SAREX Keps & Update 10/28
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id 28937 ; Tue, 02 Nov 93 15:43:49 GMT
Date: Tue, 02 Nov 93 15:44:50 UTC
Message-Id: <28936_w7oek@w7oek.bbs> .

PR.ORG by W70EK.AMPR.ORG with SMTP originator <ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28936 ; Tue, 02 Nov 93 14:43:54 GMT
Date: Tue, 02 Nov 93 14:44:51 UTC
Message-Id: <28935_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
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id 28933 ; Tue, 02 Nov 93 12:42:37 GMT
Date: Tue, 02 Nov 93 12:43:53 UTC
Message-Id: <28932_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHHB%W70EK@WD4ECK.AMPR.ORG>

id 28932 ; Tue, 02 Nov 93 12:09:45 GMT
X-Forwarded-To: W70EK
Date: 28 Oct 93 19:00:00 UTC
Message-Id: <931028050312@w7oek.bbs>
From: abfhhb@wa8ure.#swmi.mi.usa.na
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

R:931102/0810z 28885@W70EK.OR.USA.NA
R:931102/0121 49595@WB7VMS.#MURPH.OR.USA.NOAM
R:931101/1449 37097@N7DXT.#EUGEN.OR.USA.NA
R:931101/0530 4700@KB7DBD.OR.USA.NA
R:931101/1218 9138@KB7KBT.OR.USA.NA
R:931101/1152 6500@KA7AGH.OR.USA.NA
R:931101/1156 23351@W0RLI.OR.USA.NA
R:931101/1128 7291@WA7SJM.WA.USA.NA
R:931101/0025 12848@WA7BHH.WA.USA.NA

R:931101/0000 35118@W7GCI.WA.USA.NA
R:931030/1514 47346@N8GTC.#CIN.IN.USA.NOAM
R:931030/0718 29215@W90J.IN.USA.NA
R:931030/0652 22073@N5CEC.IN.USA.NA
R:931030/0540 21727@KK9G.#CEIN.IN.USA.NA
R:931030/0537 35453@N5AAA.#CEIN.IN.USA.NA
R:931029/1256 26400@KD9LP.#NCIN.IN.USA.NA
R:931029/0636 15967@NU9H.#NWIN.IN.USA.NA
R:931028/1900 36038@WA8URE.#SWMI.MI.USA.NA

SB SAREX @ AMSAT \$STS-58.025
SAREX Keps & Update: 10/28

Thursday 10/28/93 @ 08:00 UTC

The last school group contact was completed yesterday. The Portsmouth HS in Portsmouth, New Hampshire had a telebridge contact using stations in California (Ralph Warner, N6MNN) and Texas (Bob Douglas, W5GEL). The students asked 5 questions during this bridge contact.

Hams across the U.S. and around the world continue to work the Shuttle Columbia on both voice and packet. Moreover, the completion of school group contacts has cleared several school backup passes for possible general QSO opportunities. While the SAREX Working Group cannot fully guarantee availability, there is a high probability that the STS-58 crew will be ready to take general calls over the continental U.S. on these passes. Two of these "scheduled" passes remain. These include orbit 178 at MET 11 days 1 hour 42 minutes (10/29 at 16:35 UTC) and orbit 192 at MET 11 days 22 hours and 29 minutes (10/30 at 13:22 UTC). Please note that the astronauts operated voice during yesterday's "scheduled" pass which occurred on 10/27 at 14:59 UTC (Orbit 145). Also note that hams on the ground heard or worked the Shuttle Columbia crew on several other orbits yesterday.

Element set GSFC-031, generated by Ron Parise, WA4SIR, is the official SAREX set for today. Please note that there is only a six second difference between element set GSFC-025 (released two days ago) and element set GSFC-031.

STS-58

1	22869U	93065A	93300.17699070	0.00133671	99048-5	24183-3	0	318
2	22869	39.0252	71.9896	0012817	34.2105	325.9529	16.00500857	1383

Satellite: STS-58

Catalog number: 22869

Epoch time: 93300.17699070 (27 OCT 93 04:14:51.** UTC)

Element set: GSFC-031

Inclination: 39.0252 deg

RA of node:	71.9896 deg	Space Shuttle Flight STS-58
Eccentricity:	0.0012817	Keplerian Elements
Arg of perigee:	34.2105 deg	
Mean anomaly:	325.9529 deg	
Mean motion:	16.00500857 rev/day	Semi-major Axis: 6651.1630 Km
Decay rate:	0.13E-02 rev/day*2	Apogee Alt: 281.30 Km
Epoch rev:	138	Perigee Alt: 264.25 Km

NOTE - This element set is based on NORAD element set # 031.
The spacecraft has been propagated to the next ascending
node, and the orbit number has been adjusted to bring it
into agreement with the NASA numbering convention.

Submitted by Frank H. Bauer, KA3HDO for the SAREX Working Group

Date: 6 Nov 93 22:50:37 GMT
From: news-mail-gateway@ucsd.edu
Subject: SAREX Keps & Update 10/28
To: info-hams@ucsd.edu

R:931103/1205Z @:WA7BHH.WA.USA.NA [Tacoma] #:13574 Z:98465 FBB5.15
R:931103/1123 6214@WB7QEU.WA.USA.NA
R:931103/1009 7982@WA7SJJ.WA.USA.NA
R:931103/0959 1118@W0RLI.OR.USA.NOAM
R:931103/0516 37547@N7DXT.#EUGEN.OR.USA.NA
R:931103/0445 49934@WB7VMS.#MURPH.OR.USA.NOAM

Received: from WD4ECK.AMPR.ORG by W7OEK.AMPR.ORG with SMTP originator
<ABFHB%W7OEK@WD4ECK.AMPR.ORG>
id 29050 ; Wed, 03 Nov 93 02:01:26 GMT
Date: Wed, 03 Nov 93 02:01:50 UTC
Message-Id: <29047_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W7OEK.AMPR.ORG with SMTP originator
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id 29047 ; Wed, 03 Nov 93 01:09:32 GMT
Date: Wed, 03 Nov 93 01:09:40 UTC
Message-Id: <29041_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28

X-BBS-Msg-Type: B

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<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29041 ; Tue, 02 Nov 93 21:42:27 GMT
Date: Tue, 02 Nov 93 21:42:59 UTC
Message-Id: <28985_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

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Message-Id: <28973_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
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<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28973 ; Tue, 02 Nov 93 19:58:01 GMT
Date: Tue, 02 Nov 93 19:58:49 UTC
Message-Id: <28968_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
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id 28968 ; Tue, 02 Nov 93 18:43:20 GMT
Date: Tue, 02 Nov 93 18:44:09 UTC
Message-Id: <28942_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

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id 28942 ; Tue, 02 Nov 93 17:43:53 GMT
Date: Tue, 02 Nov 93 17:44:47 UTC
Message-Id: <28937_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org

To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
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<ABFHB%W70EK@WD4ECK.AMPR.ORG>
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Message-Id: <28936_w7oek@w7oek.bbs>
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id 28932 ; Tue, 02 Nov 93 12:09:45 GMT
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Date: 28 Oct 93 19:00:00 UTC
Message-Id: <931028050312@w7oek.bbs>
From: abfhhb@wa8ure.#swmi.mi.usa.na
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
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R:931102/0810z 28885@W70EK.OR.USA.NA
R:931102/0121 49595@WB7VMS.#MURPH.OR.USA.NOAM
R:931101/1449 37097@N7DXT.#EUGEN.OR.USA.NA
R:931101/0530 4700@KB7DBD.OR.USA.NA
R:931101/1218 9138@KB7KBT.OR.USA.NA
R:931101/1152 6500@KA7AGH.OR.USA.NA
R:931101/1156 23351@W0RLI.OR.USA.NA
R:931101/1128 7291@WA7SJM.WA.USA.NA
R:931101/0025 12848@WA7BHH.WA.USA.NA
R:931101/0000 35118@W7GCI.WA.USA.NA
R:931030/1514 47346@N8GTC.#CIN.IN.USA.NOAM
R:931030/0718 29215@W90J.IN.USA.NA
R:931030/0652 22073@N5CEC.IN.USA.NA
R:931030/0540 21727@KK9G.#CEIN.IN.USA.NA
R:931030/0537 35453@N5AAA.#CEIN.IN.USA.NA
R:931029/1256 26400@KD9LP.#NCIN.IN.USA.NA
R:931029/0636 15967@NU9H.#NWIN.IN.USA.NA
R:931028/1900 36038@WA8URE.#SWMI.MI.USA.NA

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Thursday 10/28/93 @ 08:00 UTC

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STS-58

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1 22869U 93065A    93300.17699070 0.00133671  99048-5  24183-3 0   318
2 22869  39.0252  71.9896 0012817  34.2105 325.9529 16.00500857  1383
```

Satellite: STS-58

Catalog number: 22869

Epoch time: 93300.17699070 (27 OCT 93 04:14:51.** UTC)

Element set: GSFC-031

Inclination: 39.0252 deg

RA of node: 71.9896 deg Space Shuttle Flight STS-58

Eccentricity: 0.0012817 Keplerian Elements

Arg of perigee: 34.2105 deg

Mean anomaly: 325.9529 deg

Mean motion: 16.00500857 rev/day Semi-major Axis: 6651.1630 Km

Decay rate: 0.13E-02 rev/day*2 Apogee Alt: 281.30 Km

Epoch rev: 138 Perigee Alt: 264.25 Km

NOTE - This element set is based on NORAD element set # 031.

The spacecraft has been propagated to the next ascending node, and the orbit number has been adjusted to bring it into agreement with the NASA numbering convention.

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Subject: SAREX Keps & Update 10/28

To: info-hams@ucsd.edu

R:931103/1220Z @:WA7BHH.WA.USA.NA [Tacoma] #:13576 Z:98465 FBB5.15

R:931103/1137 6216@WB7QEU.WA.USA.NA

R:931103/1019 7984@WA7SJJN.WA.USA.NA

R:931103/1009 1123@W0RLI.OR.USA.NOAM

R:931103/0550 37551@N7DXT.#EUGEN.OR.USA.NA

R:931103/0508 49936@WB7VMS.#MURPH.OR.USA.NOAM

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id 28942 ; Tue, 02 Nov 93 17:43:53 GMT
Date: Tue, 02 Nov 93 17:44:47 UTC
Message-Id: <28937_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28937 ; Tue, 02 Nov 93 15:43:49 GMT
Date: Tue, 02 Nov 93 15:44:50 UTC
Message-Id: <28936_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28936 ; Tue, 02 Nov 93 14:43:54 GMT
Date: Tue, 02 Nov 93 14:44:51 UTC
Message-Id: <28935_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28935 ; Tue, 02 Nov 93 13:43:53 GMT
Date: Tue, 02 Nov 93 13:44:50 UTC
Message-Id: <28933_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28933 ; Tue, 02 Nov 93 12:42:37 GMT
Date: Tue, 02 Nov 93 12:43:53 UTC
Message-Id: <28932_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28932 ; Tue, 02 Nov 93 12:09:45 GMT
X-Forwarded-To: W70EK
Date: 28 Oct 93 19:00:00 UTC
Message-Id: <931028050312@w7oek.bbs>
From: abfhb@wa8ure.#swmi.mi.usa.na
To: ans@amsat.org

Subject: SAREX Keps & Update 10/28

X-BBS-Msg-Type: B

R:931102/0810z 28885@W70EK.OR.USA.NA
R:931102/0121 49595@WB7VMS.#MURPH.OR.USA.NOAM
R:931101/1449 37097@N7DXT.#EUGEN.OR.USA.NA
R:931101/0530 4700@KB7DBD.OR.USA.NA
R:931101/1218 9138@KB7KBT.OR.USA.NA
R:931101/1152 6500@KA7AGH.OR.USA.NA
R:931101/1156 23351@W0RLI.OR.USA.NA
R:931101/1128 7291@WA7SJN.WA.USA.NA
R:931101/0025 12848@WA7BHH.WA.USA.NA
R:931101/0000 35118@W7GCI.WA.USA.NA
R:931030/1514 47346@N8GTC.#CIN.IN.USA.NOAM
R:931030/0718 29215@W90J.IN.USA.NA
R:931030/0652 22073@N5CEC.IN.USA.NA
R:931030/0540 21727@KK9G.#CEIN.IN.USA.NA
R:931030/0537 35453@N5AAA.#CEIN.IN.USA.NA
R:931029/1256 26400@KD9LP.#NCIN.IN.USA.NA
R:931029/0636 15967@NU9H.#NWIN.IN.USA.NA
R:931028/1900 36038@WA8URE.#SWMI.MI.USA.NA

SB SAREX @ AMSAT \$STS-58.025

SAREX Keps & Update: 10/28

Thursday 10/28/93 @ 08:00 UTC

The last school group contact was completed yesterday. The Portsmouth HS in Portsmouth, New Hampshire had a telebridge contact using stations in California (Ralph Warner, N6MNN) and Texas (Bob Douglas, W5GEL). The students asked 5 questions during this bridge contact.

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Element set GSFC-031, generated by Ron Parise, WA4SIR, is the official SAREX set for today. Please note that there is only a six second difference

between element set GSFC-025 (released two days ago) and element set GSFC-031.

STS-58

```
1 22869U 93065A   93300.17699070 0.00133671  99048-5  24183-3 0   318
2 22869  39.0252  71.9896 0012817  34.2105 325.9529 16.00500857 1383
```

Satellite: STS-58

Catalog number: 22869

Epoch time: 93300.17699070 (27 OCT 93 04:14:51.** UTC)

Element set: GSFC-031

Inclination: 39.0252 deg

RA of node: 71.9896 deg Space Shuttle Flight STS-58

Eccentricity: 0.0012817 Keplerian Elements

Arg of perigee: 34.2105 deg

Mean anomaly: 325.9529 deg

Mean motion: 16.00500857 rev/day Semi-major Axis: 6651.1630 Km

Decay rate: 0.13E-02 rev/day*2 Apogee Alt: 281.30 Km

Epoch rev: 138 Perigee Alt: 264.25 Km

NOTE - This element set is based on NORAD element set # 031.

The spacecraft has been propagated to the next ascending node, and the orbit number has been adjusted to bring it into agreement with the NASA numbering convention.

Submitted by Frank H. Bauer, KA3HDO for the SAREX Working Group

Date: 6 Nov 93 22:51:10 GMT

From: news-mail-gateway@ucsd.edu

Subject: SAREX Keps & Update 10/28

To: info-hams@ucsd.edu

R:931103/1220Z @:WA7BHH.WA.USA.NA [Tacoma] #:13576 Z:98465 FBB5.15

R:931103/1137 6216@WB7QEU.WA.USA.NA

R:931103/1019 7984@WA7SJJN.WA.USA.NA

R:931103/1009 1123@W0RLI.OR.USA.NOAM

R:931103/0550 37551@N7DXT.#EUGEN.OR.USA.NA

R:931103/0508 49936@WB7VMS.#MURPH.OR.USA.NOAM

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29041 ; Tue, 02 Nov 93 21:42:27 GMT

Date: Tue, 02 Nov 93 21:42:59 UTC

Message-Id: <28985_w7oek@w7oek.bbs>

From: abfhb%w7oek@wd4eck.ampr.org

To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28985 ; Tue, 02 Nov 93 20:47:06 GMT
Date: Tue, 02 Nov 93 20:47:48 UTC
Message-Id: <28973_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28973 ; Tue, 02 Nov 93 19:58:01 GMT
Date: Tue, 02 Nov 93 19:58:49 UTC
Message-Id: <28968_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28968 ; Tue, 02 Nov 93 18:43:20 GMT
Date: Tue, 02 Nov 93 18:44:09 UTC
Message-Id: <28942_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28942 ; Tue, 02 Nov 93 17:43:53 GMT
Date: Tue, 02 Nov 93 17:44:47 UTC
Message-Id: <28937_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28937 ; Tue, 02 Nov 93 15:43:49 GMT
Date: Tue, 02 Nov 93 15:44:50 UTC

Message-Id: <28936_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28936 ; Tue, 02 Nov 93 14:43:54 GMT
Date: Tue, 02 Nov 93 14:44:51 UTC
Message-Id: <28935_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
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Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28935 ; Tue, 02 Nov 93 13:43:53 GMT
Date: Tue, 02 Nov 93 13:44:50 UTC
Message-Id: <28933_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
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X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
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id 28932 ; Tue, 02 Nov 93 12:09:45 GMT
X-Forwarded-To: W70EK
Date: 28 Oct 93 19:00:00 UTC
Message-Id: <931028050312@w7oek.bbs>
From: abfhib@wa8ure.#swmi.mi.usa.na
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

R:931102/0810z 28885@W70EK.OR.USA.NA

R:931102/0121 49595@WB7VMS.#MURPH.OR.USA.NOAM
R:931101/1449 37097@N7DXT.#EUGEN.OR.USA.NA
R:931101/0530 4700@KB7DBD.OR.USA.NA
R:931101/1218 9138@KB7KBT.OR.USA.NA
R:931101/1152 6500@KA7AGH.OR.USA.NA
R:931101/1156 23351@W0RLI.OR.USA.NA
R:931101/1128 7291@WA7SJJN.WA.USA.NA
R:931101/0025 12848@WA7BHH.WA.USA.NA
R:931101/0000 35118@W7GCI.WA.USA.NA
R:931030/1514 47346@N8GTC.#CIN.IN.USA.NOAM
R:931030/0718 29215@W90J.IN.USA.NA
R:931030/0652 22073@N5CEC.IN.USA.NA
R:931030/0540 21727@KK9G.#CEIN.IN.USA.NA
R:931030/0537 35453@N5AAA.#CEIN.IN.USA.NA
R:931029/1256 26400@KD9LP.#NCIN.IN.USA.NA
R:931029/0636 15967@NU9H.#NWIN.IN.USA.NA
R:931028/1900 36038@WA8URE.#SWMI.MI.USA.NA

SB SAREX @ AMSAT \$STS-58.025
SAREX Keps & Update: 10/28

Thursday 10/28/93 @ 08:00 UTC

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STS-58

1 22869U 93065A 93300.17699070 0.00133671 99048-5 24183-3 0 318
2 22869 39.0252 71.9896 0012817 34.2105 325.9529 16.00500857 1383

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Catalog number: 22869

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End of Info-Hams Digest V93 #1315
